

Application Serial No.: 10/655,143
Reply to Office Action of April 16, 2008

Atty. Dkt. No.
UCF-375

Amendments to the Specification:

Please replace the paragraph beginning at page 5, line 13, with the following rewritten paragraph:

--Given the structure of the cerium oxide nanoparticles and their surrounding lattice, it was hypothesized that the nanoparticles increased longevity by reducing the free radical damage to lipids, proteins, RNA and DNA, commonly associated with aging. To test this hypothesis, tissue cultured brain cells were exposed to a lethal dose of a free radical generating agent, hydrogen peroxide, and viability measured after a 1 hour exposure. Hydrogen peroxide exposure resulted in a dramatic decrease in viability. However exposure to cerium oxide nanoparticles afforded considerable protection to free radical induced cell death as demonstrated in Fig 3. Additional experiments were conducted with a known free radical producing agent, ultraviolet light. Again, pretreatment of mixed brain cells cultures with cerium oxide nanoparticles decreased injury by over 60% (Fig. 4). --

Please replace the paragraph beginning at page 7, line 18, with the following rewritten paragraph:

--Aging: A prevalent theory of aging is that accumulation of free radicals occurs, accompanied by a decline in the body in natural free radical reducing machinery. Engineered cerium oxide nanoparticles prepared by the present process results in high biological activity and can provide remediation for the increase in free radical damage associated with tissue aging and thereby reduce age-related functional disorders.--